Installation Operation Maintenance

18-HE53D1-5

Whole House Air Cleaner

Upflow Furnace Models	*Downflow Furnace Models*	*Air Handler Models*	*50 Hz Air Handler Models*
***FD145ALFR000B**	***FD14DALFR000B**	***FD215ALAH000B**	**TFD215ALAH005B**
***FD175ALFR000B**	***FD17DALFR000B**	***FD235ALAH000B**	**TFD235ALAH005B**
***FD210ALFR000B**	***FD21DALFR000B**	***FD260ALAH000B**	**TFD260ALAH005B**
***FD245ALFR000B**	***FD24DALFR000B**	* May be "A" or "T"	

ALL phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES

IMPORTANT — This Document is **customer property** and is to remain with this unit.
Please return to service information pack upon completion of work.

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⚠ WARNING

RISK OF ELECTRIC SHOCK: These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in these operating instructions unless you are qualified to do so.

⚠ WARNING

This information is for use by individuals having adequate backgrounds of electrical and mechanical experience. Any attempt to repair a central air conditioning product may result in personal injury and/or property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

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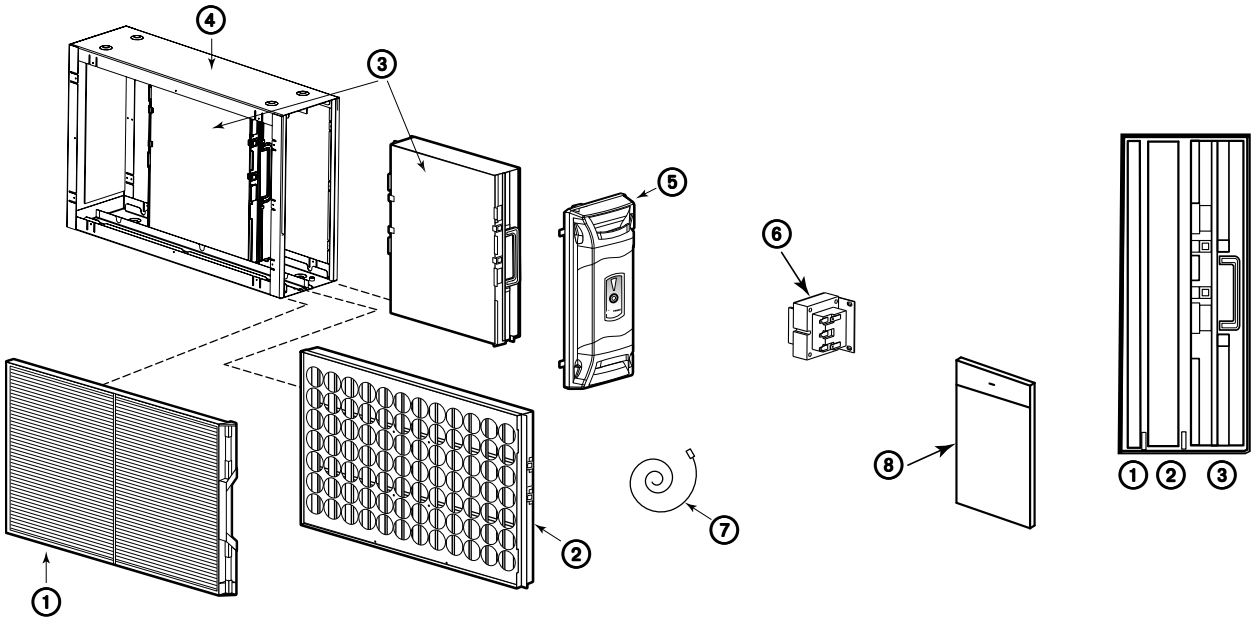


Figure 1 Components of the Air Cleaner

Unpack the Air Cleaner and check to make sure all components are included. They consist of:

1) **PRE-FILTER** - traps large particles such as hair and lint before they can enter the cell section.
2) **FIELD CHARGER** - Charges the contaminants. **Only to be removed, cleaned or serviced by a qualified technician.**
3) **COLLECTION CELL (2)** - removes and collects very small impurities from the air.
4) **CABINET** - mounts between the furnace/air handler and return air duct work and houses the COLLECTION CELLS, FIELD CHARGER and PRE-FILTER.
5) **POWER DOOR** - the solid state power supply components that convert the 24 Volt AC to the high-voltage, direct current required to power the FIELD CHARGER and COLLECTION CELLS. Allows access to the COLLECTION CELLS, FIELD CHARGER and PRE-FILTER.
6) **TRANSFORMER** - supplies 24 Volts to the indoor unit and air cleaner *(not included with 50 Hz units)*
7) **24 VOLT POWER/CONTROL CABLE**
8) **GASKET, LITERATURE AND HARDWARE PACKET**

Check carefully for any shipping damage. This must be reported to and claims made against the transportation company immediately. Check to be sure all major components are in the unit. Any missing parts should be reported to your supplier at once, and replaced with authorized parts only.

NOTE: International (50 Hz) Timings:

Due to differences in electrical systems outside the United States, customers with 50 Hz electrical systems will need to be aware of minor differences in the timings shown in this guide. 50 Hz timings will appear in [brackets] following the standard 60 hz timings.

A. DUCT SUPPORT INSTALLATION

Step 1: Review the figures below and determine which one looks like your application.

Step 2: To prevent racking of the air cleaner, support duct per the illustration.

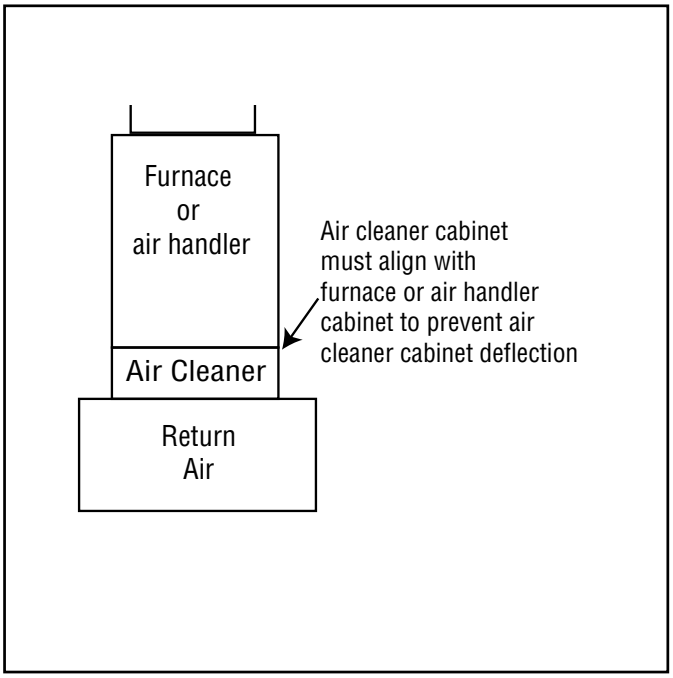


Figure 2

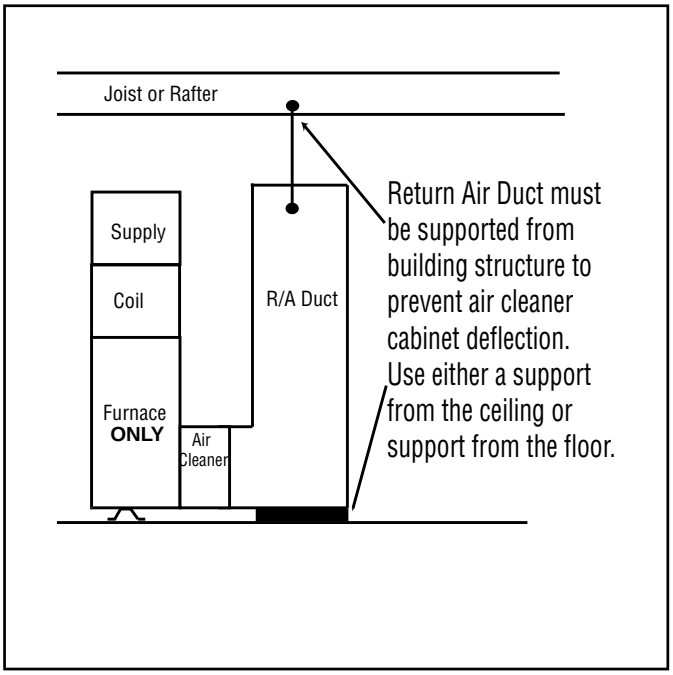


Figure 3

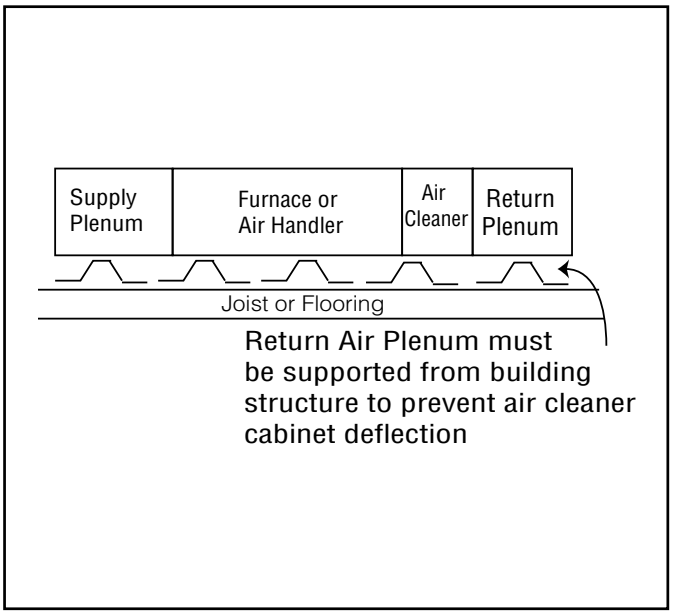


Figure 4

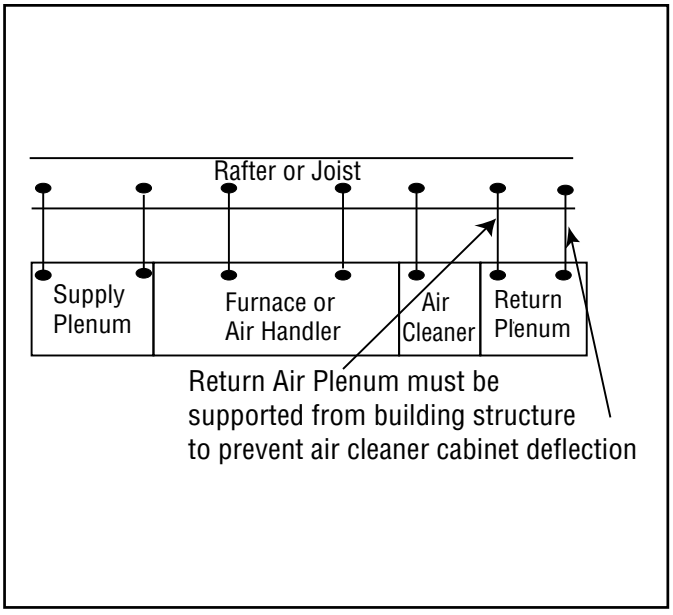


Figure 5

B. APPLICATION INFORMATION

NOTE: Do NOT install the air filter in the discharge air stream of either the air handler or furnace.

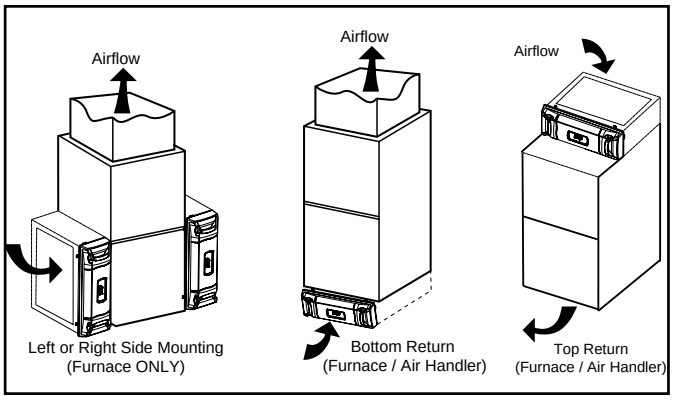


Figure 6 Mounting Location of Air Cleaner

⚠ CAUTION

Do NOT install air cleaner where the filter can be exposed to UV light. UV light can cause the plastic material to deteriorate, which may lead to filter damage.

This air cleaner cabinet must be mounted in the return air duct of a central forced-air Furnace/Air Handler.

Select a location that meets the following:

1. The face of the cell must be at a right angle to the air stream.
2. Allow a minimum of 28 inches clearance in front of the air cleaner to permit removal of cells and Pre-Filter.
3. Flow-through Bypass Humidifiers
   Excessive bypass air may cause water blow-off, which will adversely affect system operation and air cleaner performance. To verify bypass airflow, follow the Bypass Humidifier Pre-Installation Checkout and Set-Up Procedures available through your local distributor. Ask for publication number 18-CH37D1-1.

   Steam and Flow-through Fan Power Duct-mounted Humidifiers
   Follow the Humidifier installation instructions. These should only be installed on the supply air side of the system.

   Other Duct Mounted Humidifiers
   Not recommended for installation with the air cleaner.
4. Install the air cleaner such that the airflow direction arrow on the cabinet always points towards the furnace/ air handler. See Figure 7.

⚠ WARNING

Hazardous Voltage!
Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/ tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

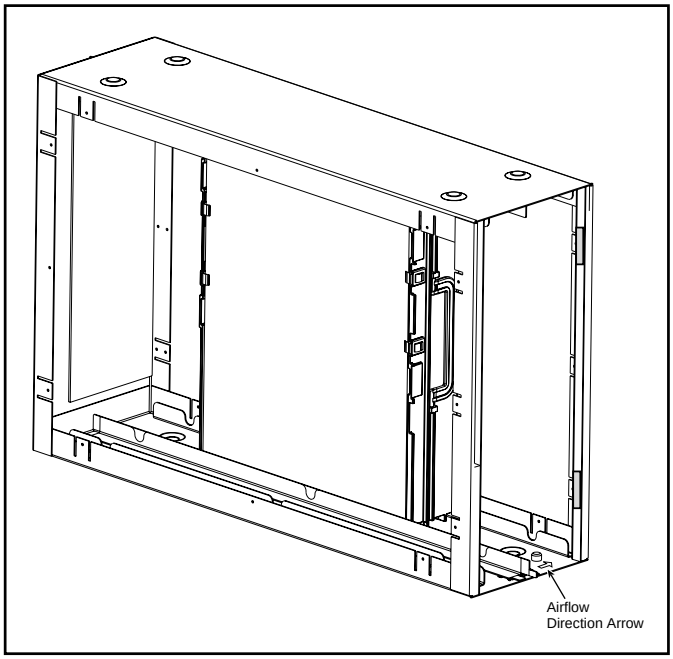


Figure 7 Airflow Direction

5. The PRE-FILTER must be on the entering airstream side of the air cleaner cabinet. The mounting flange on this side of the cabinet has the single row of holes for attaching ductwork.
6. On side return furnace applications, the air cleaner may be installed on either side of the cabinet.

   Position the PRE-FILTER on the side away from the furnace. The COLLECTION CELL guide key, installed in the cabinet will only allow the cells to be installed in the proper direction. Airflow direction must agree with airflow arrows on the cabinet.
7. It is recommended that sheet metal turning vanes be installed inside an elbow on ductwork attached to the entering airstream side of the air cleaner. This improves the air distribution over the COLLECTION CELLS. See Figure 8.

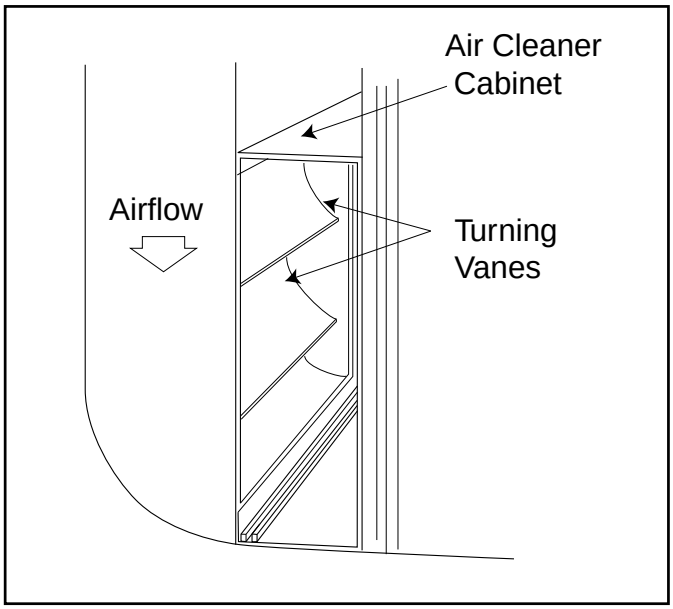


Figure 8 Turning Vanes

8. Use transition fittings where return air duct dimensions do not match the air cleaners opening dimensions. Gradual transitions are preferred for greatest efficiency. Four inches per linear foot (approximately **20°** angle) should be allowed, space permitting.
9. Seal all joints in the return air system to prevent dust from entering the air stream.

NOTE: Do NOT use a silicon based sealant. This causes a coating on the FIELD CHARGER pins that will decrease the efficiency of the air cleaner.

C. DOOR OPERATION

The air cleaner comes with the Power Door installed on the unit. The Power Door and the internal components will need to be removed before installation. Follow these guidelines for removing and re-installing the door:

REMOVING THE POWER DOOR:

Step 1: To remove the door, hold handles and rotate latches as shown in Figure 9.

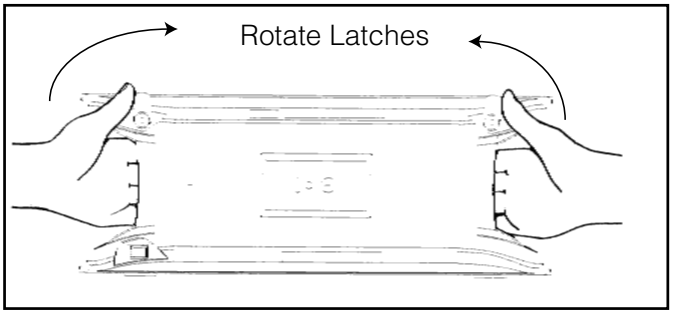


Figure 9

Step 2: Rotate the door to fully remove from the air cleaner. See Figure 10.

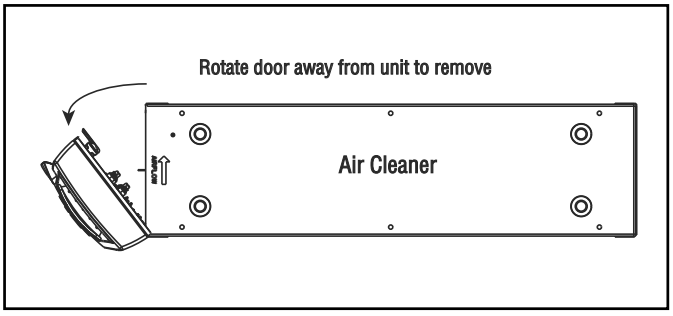


Figure 10

REINSTALLING THE POWER DOOR:

Step 1: Hold door so that tabs are aligned with slots in cabinet as shown in Figure 11.

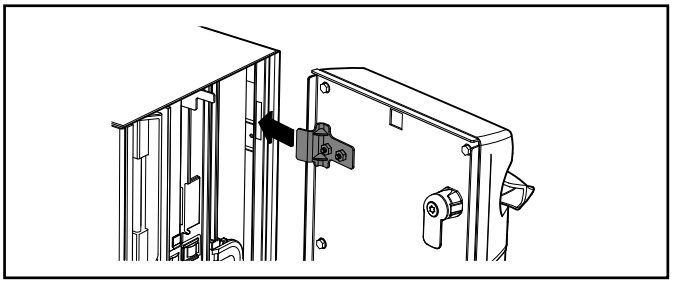


Figure 11

Step 2: Insert tabs into cabinet slots. Edge of door should fit into channel against gasket (see detail). See Figure 12.

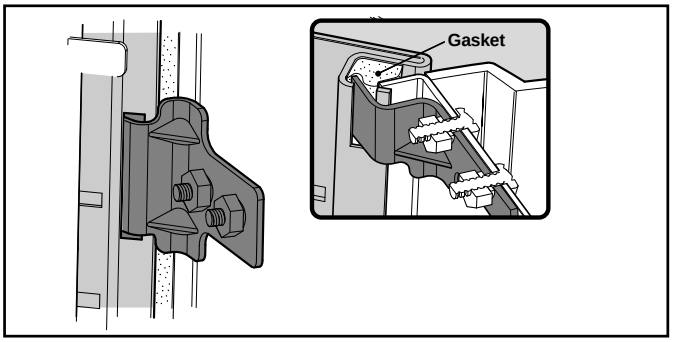


Figure 12

Step 3: Rotate door to closed position. Ensure ends of door overlap the cabinet (see detail). See Figure 13.

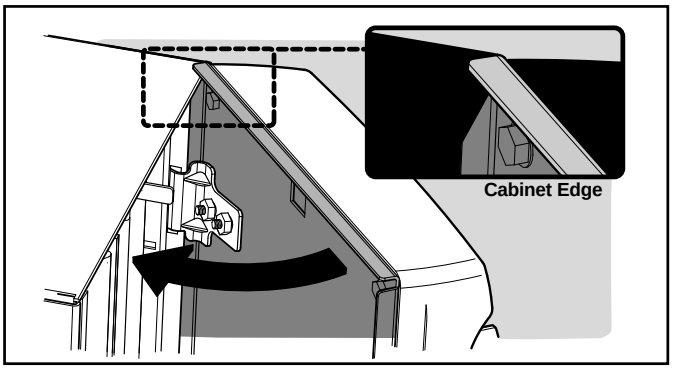


Figure 13

Step 4: Rotate latches to secure door as shown in Figure 14.

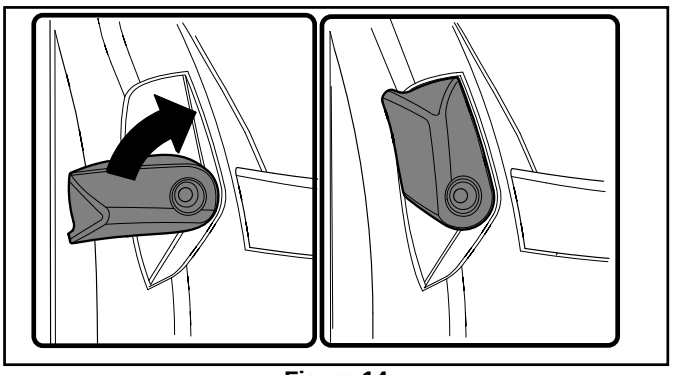


Figure 14

D. INSTALLATION GUIDELINES

*** <u>UPFLOW FURNACE AND UPFLOW AIR HANDLER INSTALLATION</u>**

*** <u>DOWNFLOW AIR HANDLER INSTALLATION</u>**

1. Rotate the two quarter turn latches on the Power Door outward then rotate the Power Door to remove it from the cabinet. See Door Operation Section C. Remove the PRE-FILTER, FIELD CHARGER, and both COLLECTION CELLS. Set the components aside until the cabinet is installed and the indoor unit is in place.
2. Install the self-adhesive gasket material on the side of the air cleaner cabinet flange that will mate with the

indoor unit. This flange has a double set of holes. See Figure 15.

3. On a protective pad, lay the indoor unit on its side.
4. Position the air cleaner on the return opening of the indoor unit with the air cleaner cabinet gasket against the indoor unit. Check that the front of the air cleaner cabinet is facing the front of the indoor unit.
5. Align the rear of the air cleaner flush with the rear of the indoor unit.
6. Align the sides of the cabinet with the sides of the unit.
7. The front of the cabinet will NOT align flush with the front of the unit.
8. Securely fasten the unit using the self-tapping sheet metal screws provided. See Figure 15.

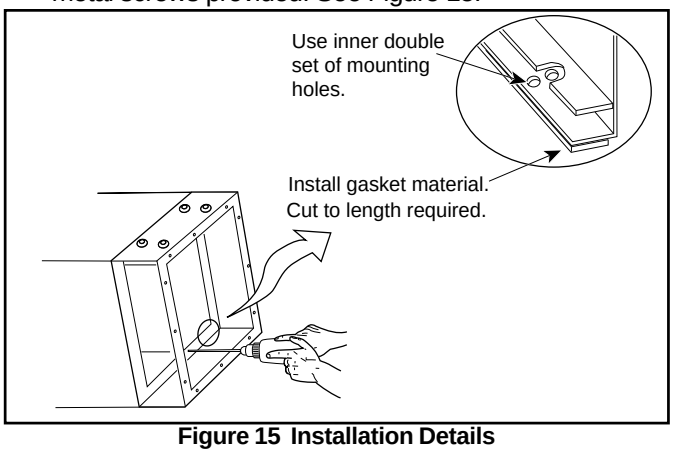


Figure 15 Installation Details

9. Install unit in place and secure.
10. Reinstall the FIELD CHARGER and lock into place by bending one locking tab on the cabinet. See Figure 16.

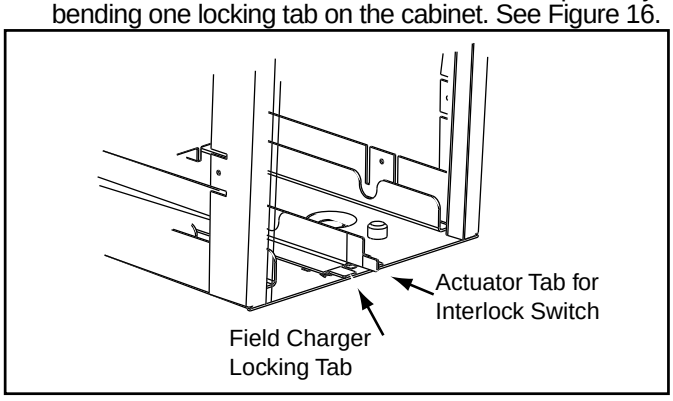


Figure 16 Locking Tab

11. Reinstall the PRE-FILTER and COLLECTION CELLS.
12. Each cell must be oriented with the handles toward the front.
13. The door can be installed in **either direction**. Determine which direction will best allow access to the latches and 24 Volt power cord. Insert the 2 tabs on the door into the slots in the cabinet flange and rotate the door into the closed position. Rotate the two quarter-turn latches on the Power Door inward. See Door Operation Section C.
14. Remove stickers (two stickers both are 5.5" x 7.5") from packet and attach to furnace, air handler, or ductwork in a location visible to the homeowner.
15. Demonstrate Maintenance (Section H) and Door Operation (Section C) to the homeowner.

DOWNFLOW FURNACE INSTALLATION

NOTE: On 90% Downflow Furnaces, the intake and exhaust (flue) are located on top. A field supplied transition is needed between the furnace and the air cleaner. The transition must be long enough to avoid any interference between the intake and exhaust pipe routing and the door of the air cleaner. The door and internal components must be removable for servicing.

1. Rotate the two quarter turn latches on the Power Door outward then rotate the Power Door to remove it from the cabinet. Remove the PRE-FILTER, FIELD CHARGER, and both COLLECTION CELLS. Set the components aside until the cabinet is installed and the indoor unit is in place.

NOTE: Cut the front duct flange 2" from each side and fold flat to clear the Power Door latches. Some applications may require a transition for piping clearances. See Figure 17.

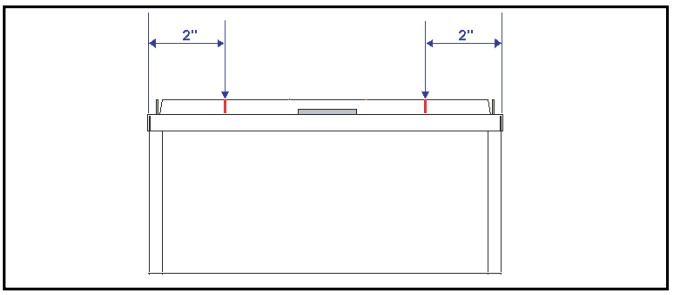


Figure 17 Duct Flanges

NOTE: Remove filter rack from downflow Furnace and discard.

2. Bend the 4 mounting tabs down on the two sides of the air cleaner cabinet. These can be used to attach the air cleaner cabinet to the furnace. See Figure 18.

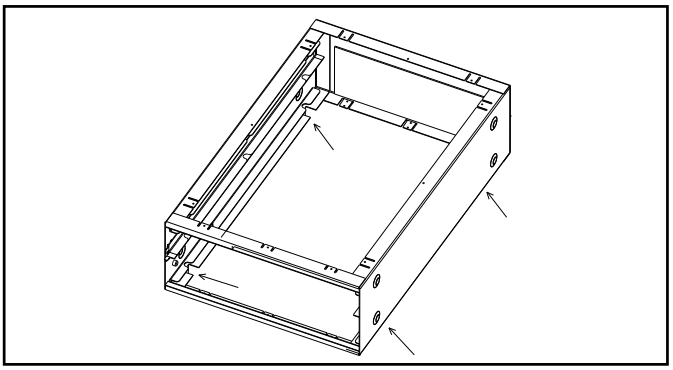


Figure 18 Mounting Tabs

3. Install the self-adhesive gasket material on the side of the air cleaner cabinet flange that will mate with the indoor unit. This flange has a double set of holes. See Figure 15.
4. Apply tranisitions or spacer as required to clear flue piping and to ensure the opening of the air cleaner matches the opening in the furnace. Position the air cleaner on the return opening of the furnace with the air cleaner cabinet gasket against the furnace. Check that the front of the air cleaner cabinet is facing the front of the furnace.

5. Align the rear of the air cleaner flush with the rear of the indoor unit.
6. Align the sides of the cabinet with the sides of the unit.
7. The front of the cabinet will NOT align flush with the front of the unit.
8. Securely fasten the unit using the self-tapping sheet metal screws provided. See Figure 15.
9. Reinstall the FIELD CHARGER and lock into place by bending one locking tab on the cabinet. See Figure 16.
10. Reinstall the PRE-FILTER and COLLECTION CELLS.
11. Each COLLECTION CELL must be oriented with the handles toward the front.
12. The door can be installed in **either direction**. Determine which direction will best allow access to the latches and 24 Volt power cord. Insert the 2 tabs on the door into the slot in the cabinet flange and rotate the door into the closed position. Rotate the two quarter-turn latches on the Power Door inward. See Door Operation, Section C.

NOTE: The door has a safety switch to ensure power is interrupted when the door is removed. This switch is open when the door is removed from the cabinet. When the door is properly installed, an actuator tab located in the cabinet will close the switch, allowing power to the electronics.

13. Remove stickers (two stickers both are 5.5" x 7.5") from the packet and attach to furnace, air handler, or ductwork in a location visible to the homeowner.
14. Demonstrate Maintenance (Section H) and Door Operation (Section C) to the homeowner.

SIDE RETURN FURNACE INSTALLATION 14.5" & 17.5" MODELS ONLY

NOTE: The 21" and 24 1/2" air cleaner cabinet heights require a transition between the air cleaner cabinet and the Furnace in side return applications.

NOTE: Do NOT install the air cleaner cabinet on the side of an air handler.

NOTE: It is recommended that sheet metal turning vanes be installed inside an elbow on ductwork attached to the entering airstream side of the air cleaner. See Figure 8 on Page 4.

1. Rotate the two quarter turn latches on the Power Door outward then rotate the Power Door to remove it from the cabinet. Remove the PRE-FILTER, FIELD CHARGER, and both COLLECTION CELLS. Set the components aside until the cabinet is installed and the indoor unit is in place.
2. Install the self-adhesive gasket material on the side of the air cleaner cabinet flange that will mate with the indoor unit. This flange has a double set of holes. See Figure 19.
3. On a protective pad, lay the indoor unit on its side. Position the furnace with the return air side of the cabinet facing up.
4. Align the bottom of the air cleaner cabinet 1/4" ABOVE the bottom of the furnace and flush with the rear of the furnace.

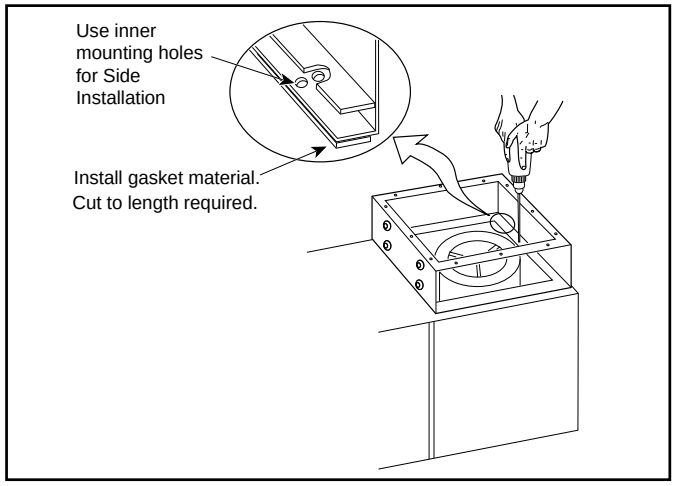


Figure 19 Side Installation Details

5. Mark the inside of the opening in the air cleaner cabinet on the side of the furnace using the inside edge of the air cleaner cabinet as a guide. Remove the cabinet and cut the opening in the side of the furnace.

NOTE: Do NOT use the standard furnace indents for the opening. The opening for the air cleaner must be larger than the standard furnace opening. Install transition as required for air cleaner opening to match furnace opening as described below.

6. Position the air cleaner on the return opening of the indoor unit with the air cleaner cabinet gasket against the indoor unit. Check that the front of the air cleaner cabinet is facing the front of the indoor unit.
7. Align the rear of the air cleaner flush with the rear of the indoor unit.
8. Align the sides of the cabinet with the sides of the unit.
9. The front of the cabinet will NOT align flush with the front of the unit.
10. Securely fasten the unit using the self-tapping sheet metal screws provided. See Figure 19.
11. Reinstall the FIELD CHARGER and lock into place by bending one locking tab on the cabinet. See Figure 16.
12. Reinstall the PRE-FILTER and COLLECTION CELLS.
13. Each cell must be oriented with the handles toward the front.
14. The door can be installed in **either direction**. Determine which direction will best allow access to the latches and 24 volt power cord. Insert the 2 tabs on the door into the slots in the cabinet flange and rotate the door into the closed position. Rotate the two quarter-turn latches on the Power Door inward. See Door Operation, Section C.

NOTE: The door has a safety switch to ensure power is interrupted when the door is removed. This switch is open when the door is removed from the cabinet. When the door is properly installed, an actuator tab located in the cabinet will close the switch, allowing power to the electronics.

15. Remove stickers (two stickers both are 5.5" x 7.5") from the packet and attach to the furnace, air handler, or ductwork in a location visible to the homeowner.
16. Demonstrate Maintenance (Section H) and Door Operation (Section C) to the homeowner.

E. ELECTRICAL CONNECTIONS

The air cleaner requires 24 VAC power and indoor fan signal to operate. A transformer adequately sized to power both the system and air cleaner is provided with the air cleaner. Remove the transformer in the indoor unit and replace with the transformer provided.

NOTE: A 50 VA transformer is required for Trane/ American Standard Heating & Air Conditioning furnace applications and 75 VA required for Trane/ American Standard Heating & Air Conditioning air handler applications. If the indoor air handler already has a properly sized transformer, no replacement is required.

NOTE: Trane/American Standard Heating & Air Conditioning dual circuited air handlers matched with heat pumps and Trane/American Standard Heating & Air Conditioning oil furnaces will require an accessory Transformer KIT# BAYTRANS12024◆ to power the air cleaner. Do NOT replace air handler transformer with the transformer supplied with the air cleaner.

NOTE: Provide adequate strain relief for the low voltage cable at the indoor unit.

NOTE: Wiring penetration must be sealed.

⚠ CAUTION

<u>DO NOT</u> attach the power/control cable to a 120 Volt EAC tap. The air cleaner uses 24 Volt power. Failure to use 24 VAC results in permanent damage to the air cleaner.

- Plug the air cleaner power/control cable into the air cleaner door and route the cable into the indoor unit low voltage wiring location.
- Connect the power/control wiring per Figure 20.

NOTE: For non-Trane/American Standard Heating & Air Conditioning systems order a 120 VAC to 24 VAC transformer, KIT# BAYTRANS12024◆ to provide 24 volt power only to the air cleaner. Access to 120 VAC outlet is required.

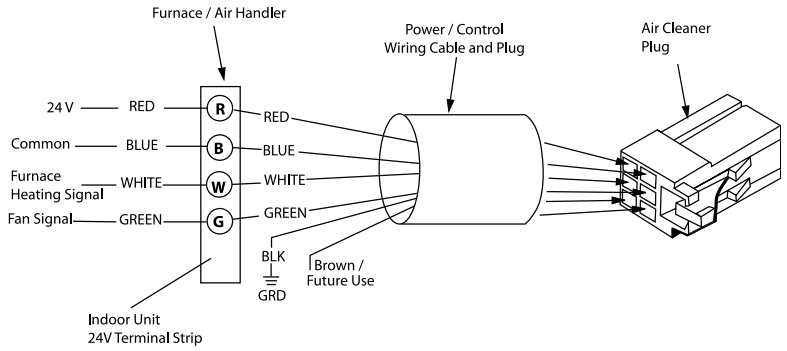
- Connect the power/control wiring per Figure 21.

NOTE: Trane/American Standard Heating & Air Conditioning Three Stage Communicating Furnaces require KIT # BAYACCECOM100.

NOTE: Wiring diagrams for the Communicating Air Handler and the Three Stage Communicating Furnace are on pages 10 and 11 respectively.

The ◆ represents an alpha character.

Figure 20 Wiring Diagram



NOTE: The Black wire must be connected to chassis ground to ensure proper operation.

Air Handler may not have a Low Voltage Terminal board. Connect Electronic Air Cleaner wires to the Air Handler Low Voltage Color coded wires.

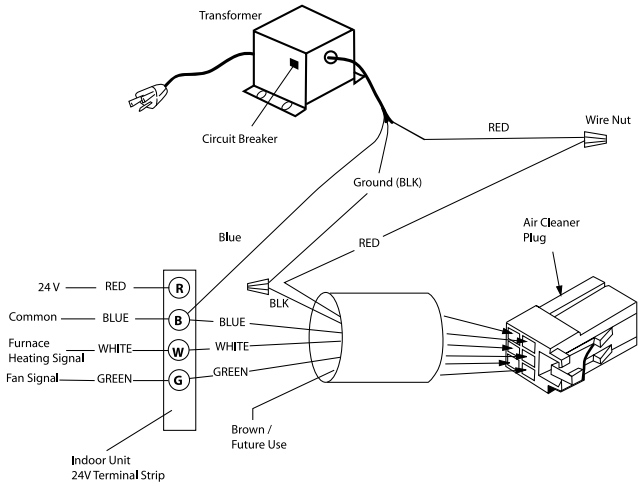
Install Transformer, one is supplied with the Electronic Air Cleaner, in the Furnace or Air Handler.

Figure 21 BAYTRANS12024◆ Transformer

- **Transformer must have a grounded 120 VAC power source. Do not defeat ground plug on the transformer.**
- **Mount transformer to building structure with the four provided wood screws.**

***NOTE: BAYTRANS12024A** with vendor's manufacturing date codes after 0625 (YYWW) cannot be installed in California because the transformer does not satisfy the requirements set forth by **California Code of Regulations, Title 20, Sections 1601 through 1608** dated December 2006.*

Transformer not applicable to 50 Hz units.



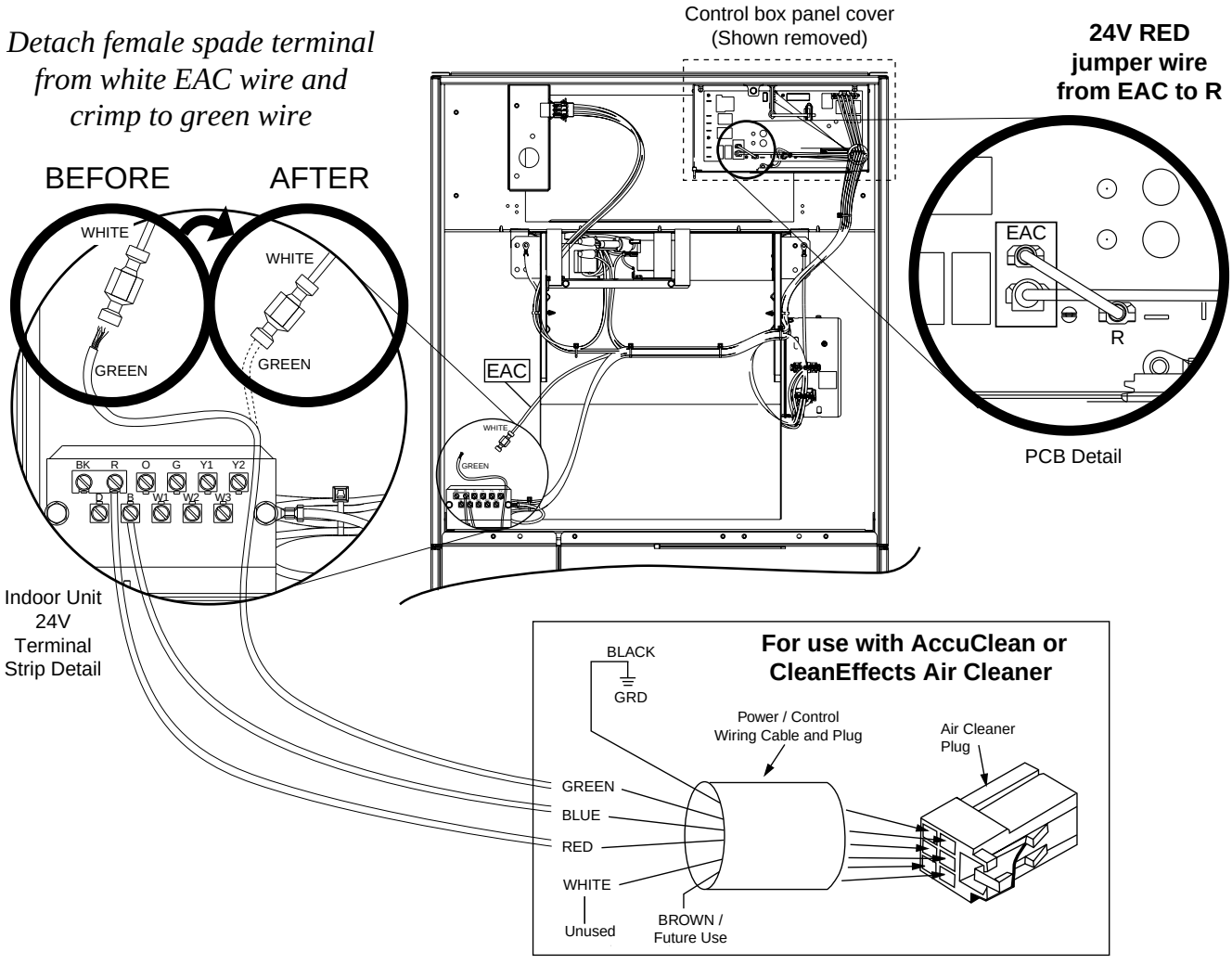
ELECTRICAL CONNECTIONS TO A COMMUNICATING SYSTEMS AIR HANDLER

⚠ WARNING

HAZARDOUS VOLTAGE! DISCONNECT ALL ELECTRIC POWER, INCLUDING REMOTE DISCONNECTS BEFORE SERVICING. FOLLOW PROPER LOCKOUT/TAGOUT PROCEDURES TO ENSURE THE POWER CAN NOT BE INADVERTENTLY ENERGIZED. FAILURE TO DISCONNECT POWER BEFORE SERVICING COULD RESULT IN DEATH OR SERIOUS INJURY.

PROCEDURE:

1) On the communicating systems air handler, remove the blower access panel.
2) Remove the communicating control box cover.
3) Locate the red jumper wire which is attached from EAC to R on the Communicating Systems PCB. Confirm it is connected. If there is not a jumper wire installed, then one must be installed in this location in order for the air cleaner to function properly.
4) Replace the Communicating control box cover.
5) Locate the white wire coming from the Communicating System Air Handler PCB labeled "EAC". The wire will have a male spade terminal connected to it and a female spade terminal inserted into the male terminal. Remove the female spade terminal and crimp it to the green wire on the air cleaner harness.
6) Connect the green wire from the air cleaner harness to the white wire on the Communicating Systems Air Handler.
7) Using the wire harness supplied with the air cleaner, connect the Red and Blue wires from the air cleaner harness to "R" and "B" on the Indoor Unit 24V Terminal Strip respectively.
8) Connect the Black wire from the air cleaner wire harness to earth ground by attaching the wire to a grounded screw that is connected to the metal air handler chassis.
9) Replace the blower access panel.



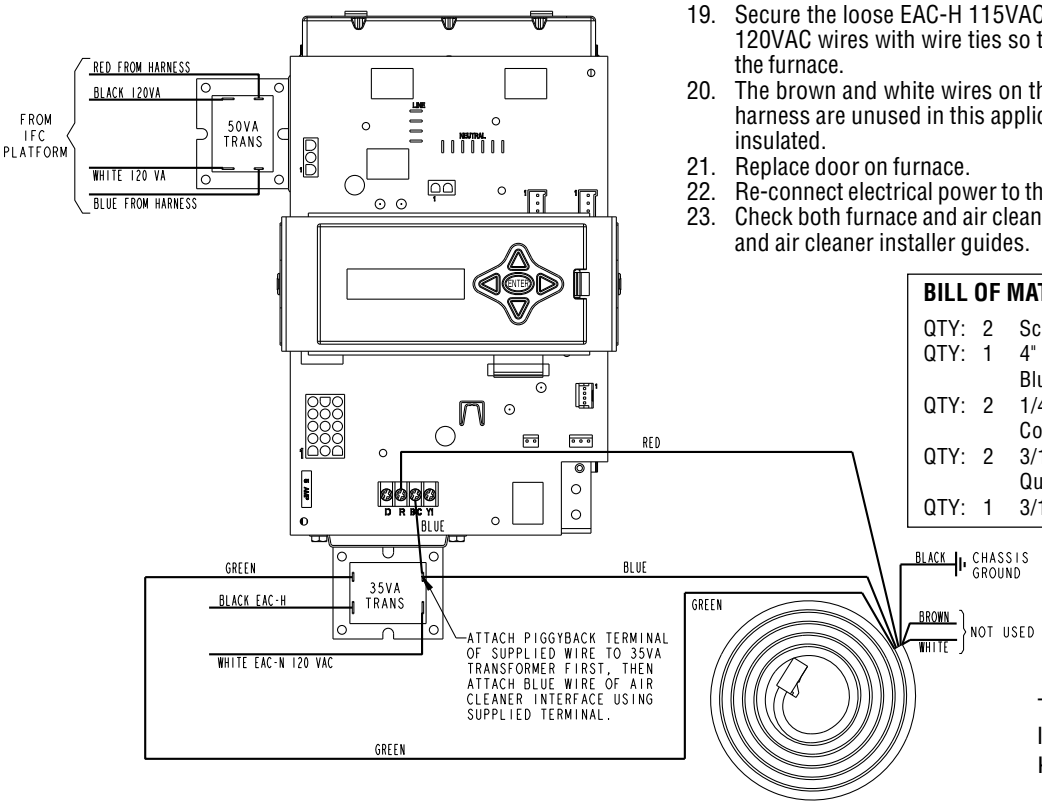
ELECTRICAL CONNECTIONS TO A COMMUNICATING SYSTEMS 3-STAGE FURNACE

⚠ WARNING

HAZARDOUS VOLTAGE! DISCONNECT ALL ELECTRIC POWER, INCLUDING REMOTE DISCONNECTS BEFORE SERVICING. FOLLOW PROPER LOCKOUT/TAGOUT PROCEDURES TO ENSURE THE POWER CAN NOT BE INADVERTENTLY ENERGIZED. FAILURE TO DISCONNECT POWER BEFORE SERVICING COULD RESULT IN DEATH OR SERIOUS INJURY.

PROCEDURE:

1. Remove electrical power going into the furnace.
2. Open blower door to upflow or downflow furnace.
3. Remove the two screws that secure the IFC platform to the underside of the blower deck on an upflow furnace or the three screws that secure the IFC to the top panel on a downflow furnace. Save these screws for remounting later.
4. Remove the IFC and platform from the upflow or downflow furnace.
5. Disconnect all wires on the 35VA transformer.
6. Remove the 35VA transformer from the IFC platform. Save the screws for 35VA transformer relocation.
7. Mount the 50 VA transformer supplied in the packaging with the air cleaner onto the IFC platform where the 35VA transformer was previously located. Use the sheet metal screws supplied with the air cleaner to mount the 50VA transformer. Re-connect the 115V and 24V wires that were connected to the 35VA transformer onto the 50 VA transformer.
8. On an upflow furnace, remount the 35VA transformer onto the underside of the IFC platform. Use existing holes and the original sheet metal screws that originally mounted the 35VA transformer. See diagram.
9. On a downflow furnace, mount the 35 VA transformer on the blower deck by drilling two 0.144 inch diameter (#27) holes 13/16" inches apart and attaching the transformer to the blower deck using the screws retained from step 3 above.
10. Remove the EAC-H 115VAC & EAC-N wires (white and black) out of the junction box and pull them through the grommet in the blower deck. Attach two supplied 1/4" insulated female quick connect terminals by stripping the wires and crimping the terminals onto the wires. Attach these wires to the 115V terminals of the 35VA transformer as shown in the diagram.
11. Connect the terminal to the 24V terminal on the 35VA transformer.
12. Remove the wiring harness supplied with the air cleaner from the packaging. Attach a supplied 3/16" insulated female quick connect terminal to the blue wire and to the green wire.
13. Attach the blue wire from the air cleaner wiring harness to the open tab on the piggyback terminal.
14. Insert the 4" blue stripped wire under the terminal strip screw marked "B/C" on the IFC control board.If the application also includes an outdoor unit (communicating or non-communicating), the B/C terminal will require three wires. For this connection, rather than connecting the three wires to the low voltage terminal strip on the furnace IFC, create a pigtail using a short length of thermostat wire and a wire nut (field supplied) to attach to the B/C terminal.
15. Connect the green wire from the air cleaner wire harness to the 24VA terminals of the 35VA transformer terminal as shown in the diagram (this terminal is labeled "RD" on the tranformer).
16. Insert the red stripped wire from the air cleaner wiring harness under the terminal strip screw marked "R" on the IFC Control board.
17. Attach the black stripped wire from the air cleaner wiring harness directly to ground with a screw in the chassis.
18. Once all of the connections have been completed, remount the IFC Control Platform into the furnace.
19. Secure the loose EAC-H 115VAC & EAC-N (black and white) 120VAC wires with wire ties so that they are not dangling in the furnace.
20. The brown and white wires on the air cleaning wiring harness are unused in this application and should be insulated.
21. Replace door on furnace.
22. Re-connect electrical power to the furnace.
23. Check both furnace and air cleaner operation per the furnace and air cleaner installer guides.



BILL OF MATERIALS:

QTY:	2	Screw
QTY:	1	4" Insulated Copper Wire – Blue (18 AWG, AWM)
QTY:	2	1/4" Insulated Female Quick Connect Terminal
QTY:	2	3/16" x 0.020" Insulated Female Quick Connect Terminal
QTY:	1	3/16" x 0.020" Receptacle & Tab

These instructions and listed parts are included in KIT# BAYACCECOM100

F. AIR CLEANER OPERATION

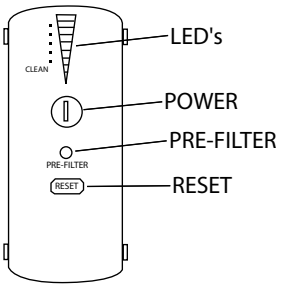


Figure 22 LED Display

⚠ CAUTION

Do NOT operate the air cleaner during construction or remodeling of a home. The air cleaner is designed for use in normal living conditions to capture small particles. The volume of dust and condensate in the presence of chlorides and fluorides from paint, varnish, stains, adhesives, cleaning compounds, and cement creates a corrosive condition which may cause rapid deterioration of the cabinet and internal components of the air cleaner and the air handler/furnace.

DISPLAY FEATURES (Figure 22)

The air cleaner display can be used for several functions:

- Provide the homeowner the operating status of the air cleaner, including an indication the PRE-FILTER or COLLECTION CELLS need cleaning.
- The installer accesses the SET-UP mode to change the time to clean settings for the PRE-FILTER and COLLECTION CELLS as well as change the Power Level setting.
- The unit will display fault codes for the homeowner indicating there is a problem with the air cleaner and various fault codes for the service technician to assist in troubleshooting the problem.

Turn the air cleaner on by pushing the POWER button. The backlit POWER and Filter RESET buttons will illuminate along with the first Green LED **(G1)** indicating 24 Volt power is present to the air cleaner.

When the indoor fan is operating the first LED **(G1)** will slowly flash. This indicates the FIELD CHARGER and COLLECTION CELLS have power and the unit is operating normally. There is a 10 [12] minute time delay between the indoor fan starting and LED **(G1)** flashing. In normal operation, the air cleaner makes a slight sound as the air passes through it and is cleaned. In some applications, you may notice this sound coming from the return air vent(s). If desired, this sound level can be reduced with minimal impact on air cleaning efficiency by reducing the power setting of the FIELD CHARGER in the SET-UP mode.

NOTE: There is a 10 [12] minute delay after the indoor fan operates, before the air cleaner starts to operate, each time the power to the air cleaner is turned off/on. This can be bypassed by going into and then out of the SET-UP mode.

G. SET-UP MODE

A combination of RED, YELLOW, and GREEN LED's are used to indicate the following settings. See Figure 23.

- The three GREEN LED's are used to indicate PRE-FILTER cleaning interval. This is measured in actual run time of the indoor fan. The default setting is 2 months [10 weeks]. See Figure 24.
- The four YELLOW LED's indicate the COLLECTION CELLS cleaning interval. This is measured in actual run time of the indoor fan. The default setting is 6 months [31 weeks]. See Figure 25.
- The three RED LED's indicate the Power Level setting. The default is maximum. See Figure 26.

INSTALLER SET-UP MODE

To enter the **SET-UP** Mode press and hold both the POWER and RESET buttons for a minimum of 5 [6] seconds. The current settings are then displayed. See Figure 23. If this is the desired setting or at any time you want to exit the SET-UP mode, press and hold BOTH the POWER and RESET buttons for a minimum of 5 [6] seconds to exit.

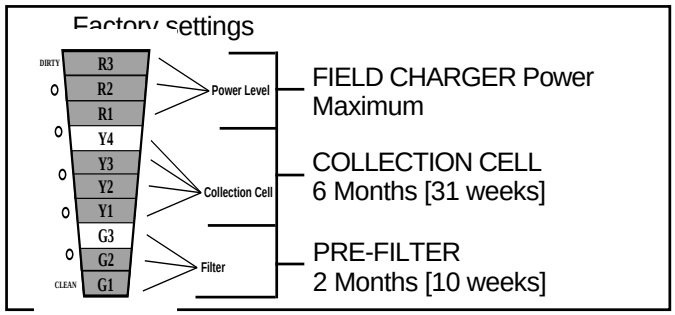


Figure 23 Factory Settings

To change any of the settings, press the POWER button once.

PRE-FILTER SETTING (Figure 24)

One or more of the GREEN LED's will come on indicating the PRE-FILTER cleaning time setting. Repeatedly press the RESET button to cycle through the time options for the PRE-FILTER cleaning cycle until the desired setting is displayed. Press the POWER button once to accept that setting and move to the COLLECTION CELL cleaning settings.

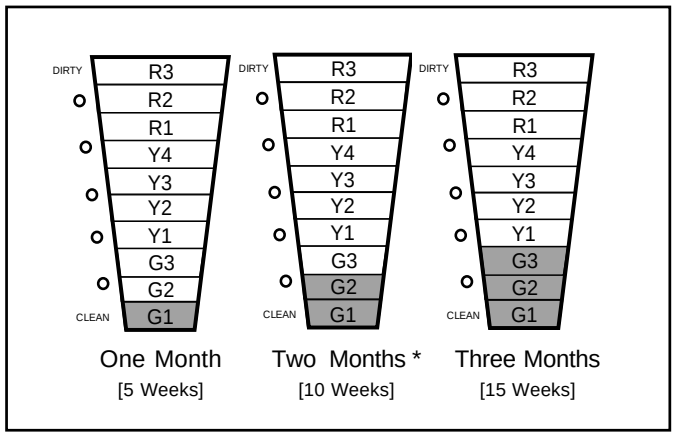


Figure 24 Green LED Pre-Filter Settings

* Factory Setting

CELL CLEANING SETTING (Figure 25)

One or more of the YELLOW LED's will come on indicating the COLLECTION CELL cleaning time setting. Repeatedly press the RESET button to cycle through the time options for the COLLECTION CELL cleaning cycle until the desired setting is displayed. Press the POWER button once to accept that setting and move to the Field Charger Power Level Settings.

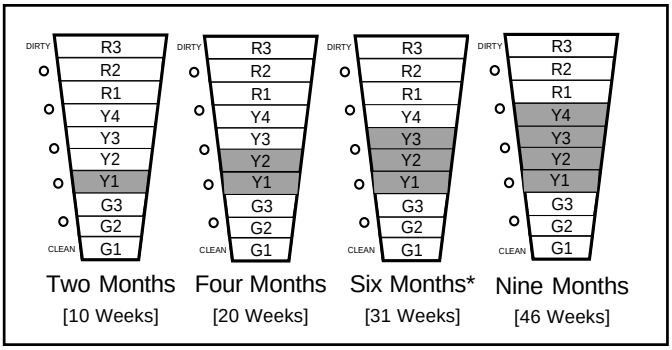


Figure 25 Yellow LED Collection Cells Settings

*Factory Setting

FIELD CHARGER POWER LEVEL

The RED LED lights are used to set the Power Level of the FIELD CHARGER for maximum, medium, or minimum. The number of illuminated RED LED lights indicates the current setting. The factory setting is for maximum.

Lower settings will reduce the slight sound emitted by the unit with minimal loss of air cleaning efficiency, if desired. Lower settings will also further reduce the very low ozone produced by the air cleaner. The U.S. Food and Drug Administration recommends indoor ozone concentrations should not exceed 50 parts per billion.

Your air cleaner will contribute only 5 parts per billion at the factory setting and can be reduced to 3 parts per billion at the minimum setting.

FIELD CHARGER POWER LEVEL SETTING (Figure 26)

One or more of the RED LED lights will illuminate. To change the Power Level setting, press the RESET button until the desired setting is indicated.

To save your new settings and exit the SET-UP mode, press and hold BOTH the POWER and filter RESET buttons for a minimum of 5 [6] seconds.

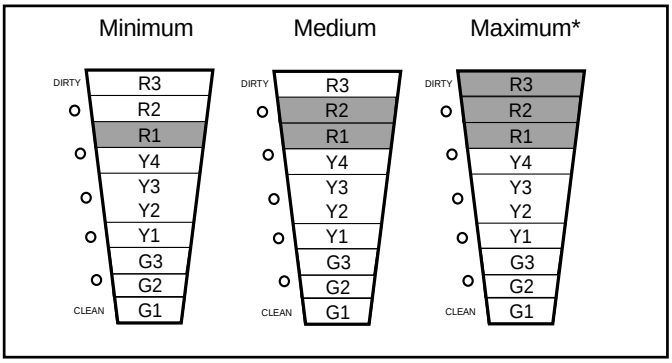


Figure 26 Red LED Power Level Settings

*Factory Setting

H. MAINTENANCE

⚠ CAUTION

Before cleaning the coil or ducts in the air handler or furnace, remove the COLLECTION CELLS, FIELD CHARGER, and PRE-FILTER from the air cleaner. Chemicals used during the cleaning of the air handler, furnace, or ductwork can damage the air cleaner components and degrade the performance of the air cleaner.

• Connect the power/control wiring per Figure 21.

NOTE: Provide adequate strain relief for the low voltage cable at the indoor unit.

NOTE: Wiring penetration must be sealed.

For maximum efficiency, the COLLECTION CELLS and PRE-FILTER should be inspected and cleaned as prescribed in this Installer's Guide.

The FIELD CHARGER should only be removed and cleaned annually by a qualified service professional.

CLEANING

Cleaning Instructions:

The air cleaner utilizes a PRE-FILTER and COLLECTION CELLS. The purpose of the PRE-FILTER is to capture large particles before they enter the COLLECTION CELLS which allows the collection cells to work more efficiently.

1. Turn the air conditioning system off at the Comfort Control (thermostat).

⚠ WARNING

High Voltage is present within the air cleaner for operation. Before removing the Power Door, turn the power off and wait at least 15 seconds to allow voltage to discharge. Failure to follow instructions could result in death or serious personal injury.

2. Turn off power to the air cleaner by pushing and holding the POWER button for three seconds. The LED's will remain on until the voltage has discharged and it is safe to remove the door. This requires approximately 15 seconds. **Do not remove the door until all the lights are off.**
3. Disconnect the power/control cable.
4. Rotate the two latches and remove the door as shown in Figure 27. Place the door in a secure location.

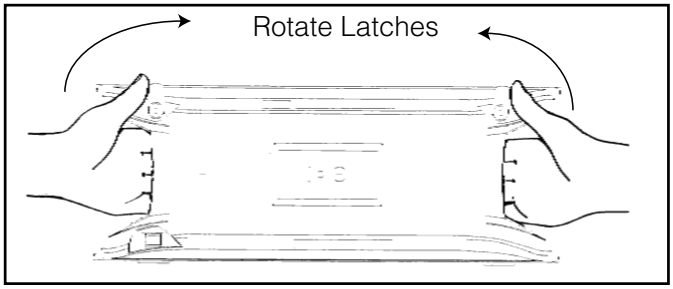


Figure 27

5. Remove the PRE-FILTER (Figure 28) and/or the COLLECTION CELLS (Figure 29) from the air cleaner.

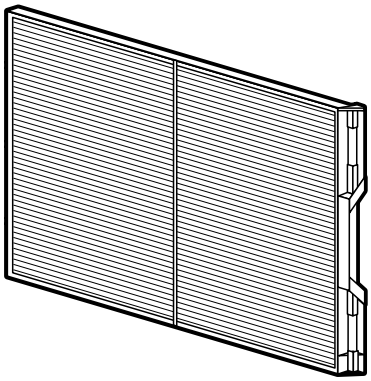


Figure 28

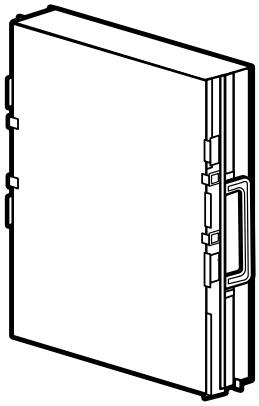


Figure 29

VACUUM CLEANING

Vacuuming is the preferred method to clean the PRE-FILTER and COLLECTION CELLS. It is recommended that the PRE-FILTER and the COLLECTION CELLS be vacuumed outside the home to ensure particles on the filters are not re-introduced into the air. Persons highly sensitive to the collected particles should wear appropriate respiratory protection while cleaning.

PRE-FILTER –
It is time to clean the PRE-FILTER when the red "PRE-FILTER" light (shown in Figure 30) is illuminated.

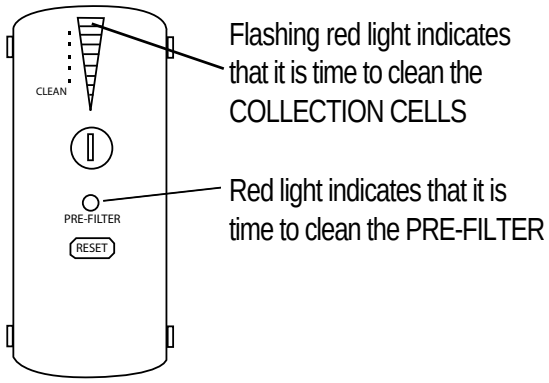

CLEAN
PRE-FILTER
RESET
Flashing red light indicates that it is time to clean the COLLECTION CELLS
Red light indicates that it is time to clean the PRE-FILTER

Figure 30

The air cleaner is factory set to notify the home owner to clean the PRE-FILTER every two months [10 weeks] of actual run time of the air cleaner. This notification can be changed by the installer/home owner to 1 month [5 weeks] or 3 months [15 weeks] depending on the conditions in the home (pets, smokers, etc.). Please see "SET-UP MODE" (Page 9) to change the factory settings.

1. Using a vacuum hose, vacuum in even strokes across the length of the PRE-FILTER. After vacuuming the entire PRE-FILTER using even strokes going in one direction, repeat the process using even strokes going in the opposite direction as shown in Figure 31.

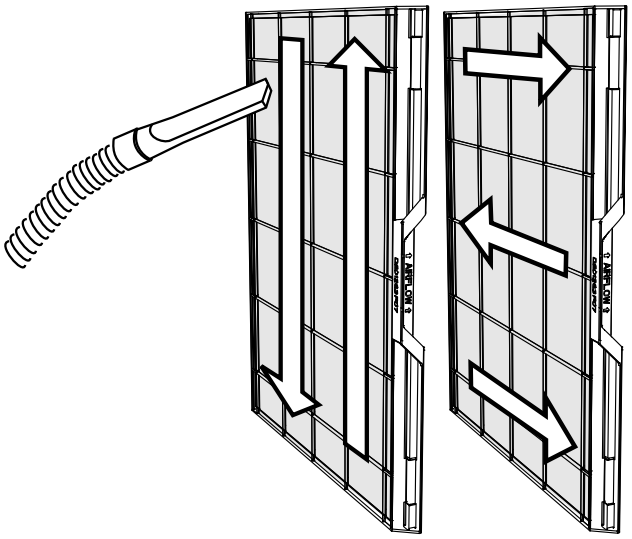


Figure 31

NOTE: Do NOT replace the plastic PRE-FILTER with a metal type PRE-FILTER. A metal PRE-FILTER will cause reduction in efficiency and potential failure of the electronics in the air cleaner.

COLLECTION CELLS
The clean/dirty LED light bar indicator will illuminate as the system cleans the air. The LED lights will progress from green to yellow and then to red. When the last red indicator is flashing, it is time to clean the COLLECTION CELLS (see Figure 30). The air cleaner is factory set to notify the home owner to clean the COLLECTION CELLS every six months [31 weeks] of actual run time of the air cleaner. This notification can be changed by the installer/home owner to 2 months, 4 months, 6 months, or 9 months [10, 20, 31, or 46 weeks] depending on the conditions in the home (pets, smokers, etc.). Please see "SET-UP MODE" (Page 9) to change the factory settings.

1. Using a vacuum hose, vacuum in even strokes across the entire COLLECTION CELL surface. Vacuum using even strokes in one direction, then repeat the process using even strokes in the opposite direction, as demonstrated in Figure 32.

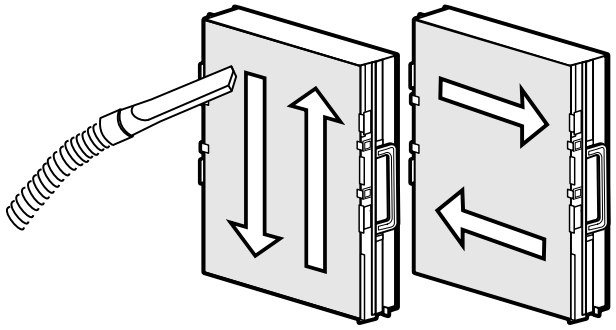


Figure 32

2. Once vacuuming is completed on one side of the COLLECTION CELL, turn the COLLECTION CELL over and repeat on the other side of the COLLECTION CELL.

NOTE: It is normal for COLLECTION CELLS to discolor during operation. Vacuuming will not restore the COLLECTION CELLS to their original color. However, vacuuming does restore the COLLECTION CELLS to a high efficiency.

REPLACING THE PRE-FILTER AND COLLECTION CELLS INTO THE AIR CLEANER

1. Replace the PRE-FILTER into the air cleaner. Ensure that the "AIRFLOW indicator arrow" on the PREFILTER is pointing in the same direction as the "AIRFLOW indicator arrow" on the air cleaner cabinet as shown in Figure 33.

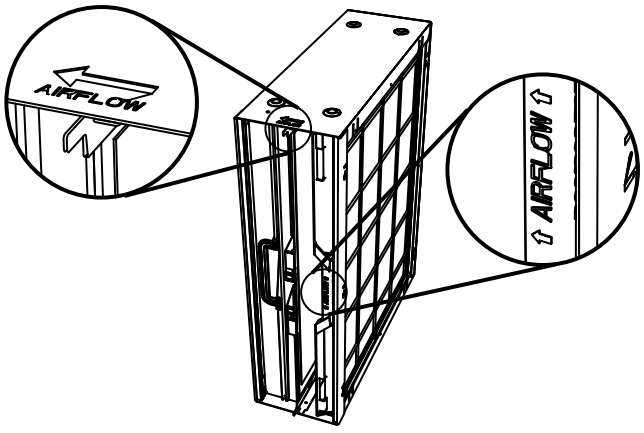


Figure 33

2. Reinstall the COLLECTION CELLS into the air cleaner. Ensure the handles on both of the COLLECTION CELLS are folded flat as shown in Figure 34.

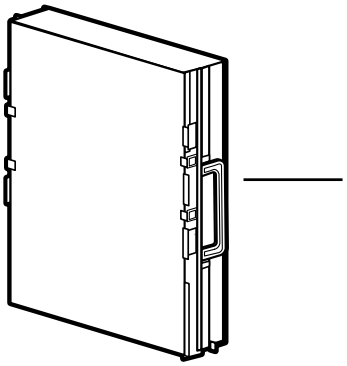


Figure 34

3. Replace the power door onto the air cleaner.

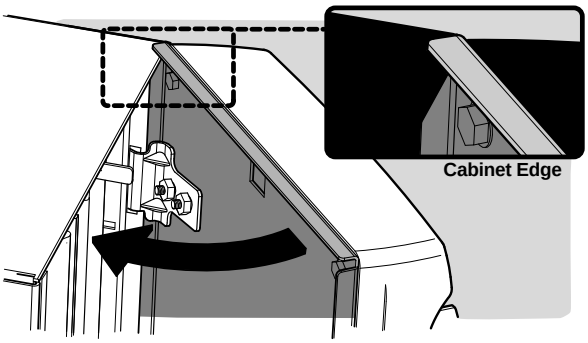


Figure 35

4. Ensure the power cord is plugged into the air cleaner.

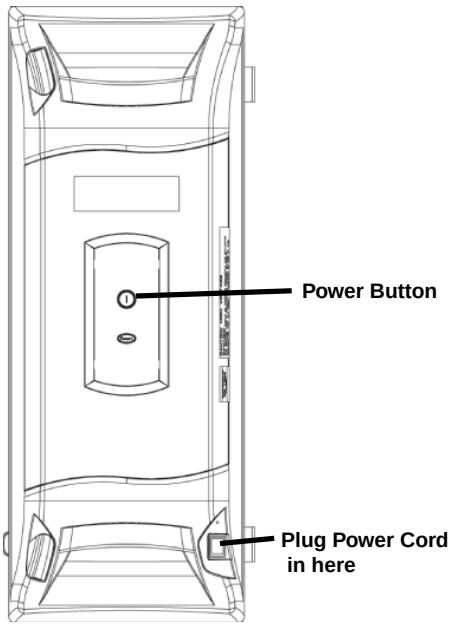


Figure 36

5. Press the power button to turn on the air cleaner.

NOTE: Once you press the power button, the first LED will be on and it will start flashing after the first 10 [12] minutes of indoor fan operation. This is normal operation.

Alternate Cleaning option for homeowners with 200 or 200-1 COLLECTION CELLS ONLY
Vacuuming the PRE-FILTER and COLLECTION CELLS restores them to a high efficiency. However, some environmental conditions, like tobacco smoke, cause the COLLECTION CELLS to need to be washed with water. Washing the COLLECTION CELLS is acceptable ONLY if the COLLECTION CELL has a "200" embossed or written on the frame in the vicinity of the manufacturing part number:

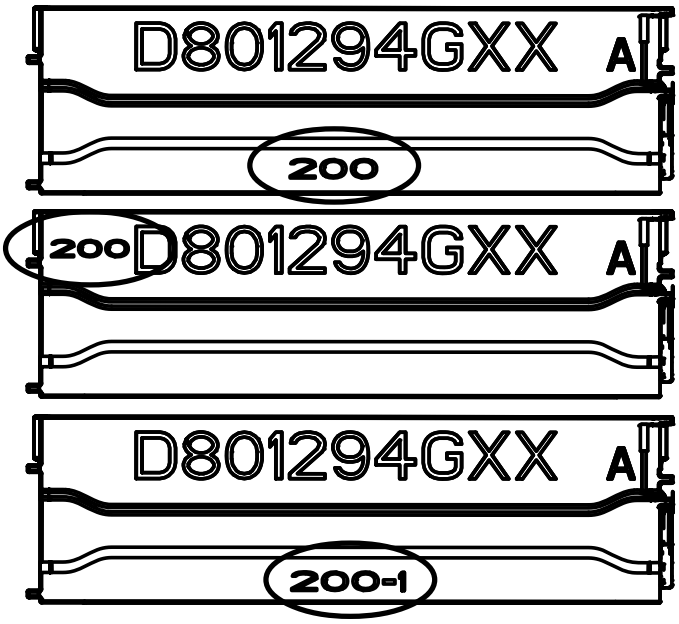


Figure 37

Carefully review both of the COLLECTION CELLS for the "200" mark. If the "200" mark is visible on BOTH COLLECTION CELLS, they may be washed. If the "200" mark is NOT visible, the COLLECTION CELLS **cannot** be washed.

⚠ CAUTION

Washing COLLECTION CELLS that do NOT have the "200" mark on them can result in degradation of the air cleaner system. Failure to follow instructions could result in property damages.

1. If the COLLECTION CELLS do have the "200" mark on them, they may be washed using a low pressure water spray, such as a sink sprayer or garden hose. Residue like tobacco smoke may require warm water to be removed.

- **Do NOT use soap or detergent in cleaning the COLLECTION CELLS.**
- **Do NOT immerse the COLLECTION CELLS completely in water.**
- **Do NOT place the COLLECTION CELLS into a dishwasher to clean.**
- **ALLOW THE COLLECTION CELLS TO DRY THOROUGHLY BEFORE INSTALLING.**

2. After washing, drain as much water as possible from the COLLECTION CELLS.
3. Holding the sides of the COLLECTION CELLS, gently tap the cells on a flat surface to dislodge any water droplets inside the COLLECTION CELLS. After tapping, wipe down the surfaces of the COLLECTION CELLS to remove any visible droplets of water.

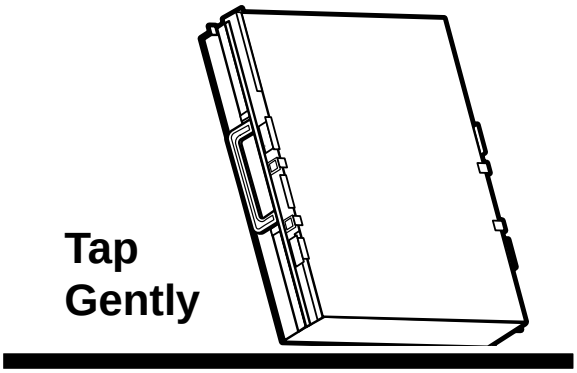


Figure 38

4. When there are no visible water droplets left in the COLLECTION CELLS, reinstall them into the air cleaner cabinet. Be sure to fold the COLLECTION CELL handles flat as shown in Figure 39.

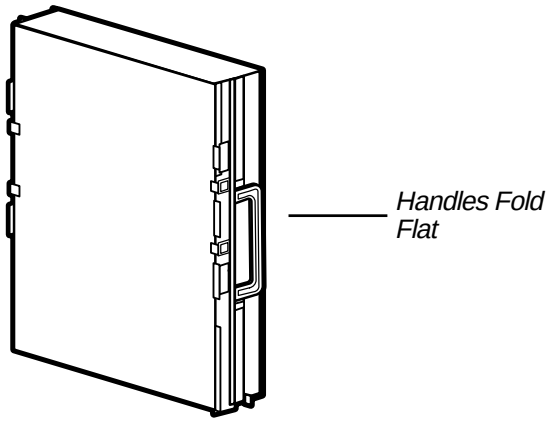


Figure 39

5. Replace the door onto the air cleaner cabinet (see Reinstalling the Power Door, page 5).

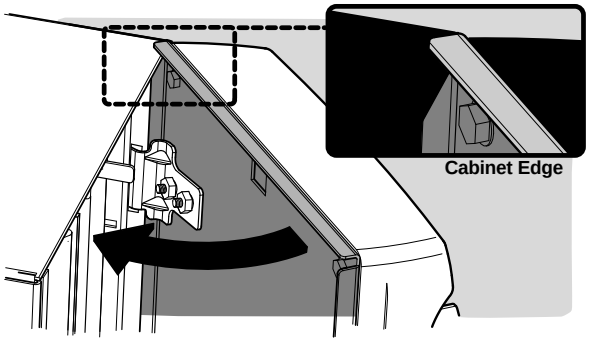


Figure 40

6. Ensure that the power cord is connected to the air cleaner and press the power button.

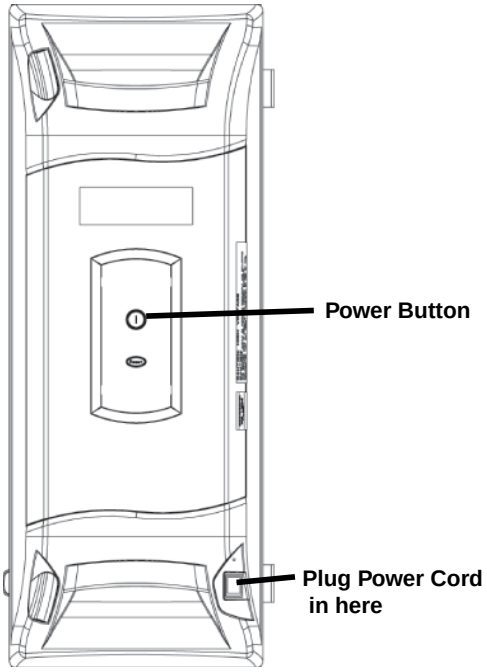


Figure 41

NOTE: Once you press the power button, the first LED will be on and it will start flashing after the first 10 [12] minutes of indoor fan operation. This is normal operation.

7. On the thermostat, reset the indoor fan operation to the desired mode. Turn the air system back on at the Comfort Control (thermostat).

NOTE: The field charger should never be subjected to water. The field charger should only be cleaned by a trained service professional.

NOTE: The pre-filter may also be washed ONLY if the COLLECTION CELLS show a "200". Follow the same instructions to wash the PRE-FILTER - being sure to tap gently and wipe off any visible water droplets.

FAULT CODES

The air cleaner LED's will display a fault indication, four Yellow or three Red LED's, when a fault has been detected. A log of the last three faults is recorded and can be accessed by going into the Set-Up mode. The unit will repetitively check the system to determine if the fault persists. The fault indication will be displayed as long as the fault condition remains.

If the fault is no longer present, the system will return to normal operation and no longer display the fault indication. Even if the fault has been cleared, a log of the last 3 faults is recorded.

REPETITIVE ARC FAULT INDICATION

If the unit detects 10 consecutive run cycles where an arc occurs during the cycle, it will go into a lock out period for one hour. This is indicated by three FLASHING YELLOW LED's. The PRE-FILTER and COLLECTION CELLS should be cleaned to ensure no large material is trapped in the filters and causing the fault. Check the FIELD CHARGER for material that can cause the fault.

If the unit detects any other type of fault, this will be indicated by three FLASHING RED LED's. See the Service Facts for fault code information.

I. TROUBLESHOOTING

Service Indications	Service Checks
Indoor Blower ON/ Air Cleaner First Green LED OFF	1. Check that the Power Door is installed correctly and the latches closed. The actuator tab must engaged the door safety switch. 2. Check the air cleaner power/control cable. 3. Push the power button once. 4. Check for 24 Volts AC at the Air Cleaner power plug.
Indoor Blower ON/ Air Cleaner First Green LED ON, Not Flashing	1. Air Cleaner is in the 10 [12] minute dry cycle. 2. No call for Air Cleaner Operation due to no 24 Volts AC call going to G or W from the Furnace or Air Handler. 3. There is no High Voltage being provided to the Field Charger or the Collection Cells. Inspect the Field Charger assembly and Collection Cells for any foreign material that may be lodged in them. Clean as needed, reassemble and test. 4. If the Air Cleaner still does not work, remove Power Door from the Air Cleaner housing.
⚠ WARNING **HIGH VOLTAGE WILL BE PRESENT FOR THE REMAINDER OF THIS TEST.**	
	5. With the indoor blower running and the power cord plugged into the Air Cleaner, use a tool to activate the Power Door interlock switch. Push the power button once. The first Green LED should come on and after the time delay it should start to flash. If the first Green LED does not start to flash the fault is with the Power Door.
Indoor Blower ON/ Three Yellow LEDs Flashing	1. Remove the Power Door, Field Charger & Collection Cells. Inspect for foreign material, clean if needed.
Indoor Blower ON/ Three Red LEDs Flashing	1. This indicates service is needed. See Service Facts for fault code information.

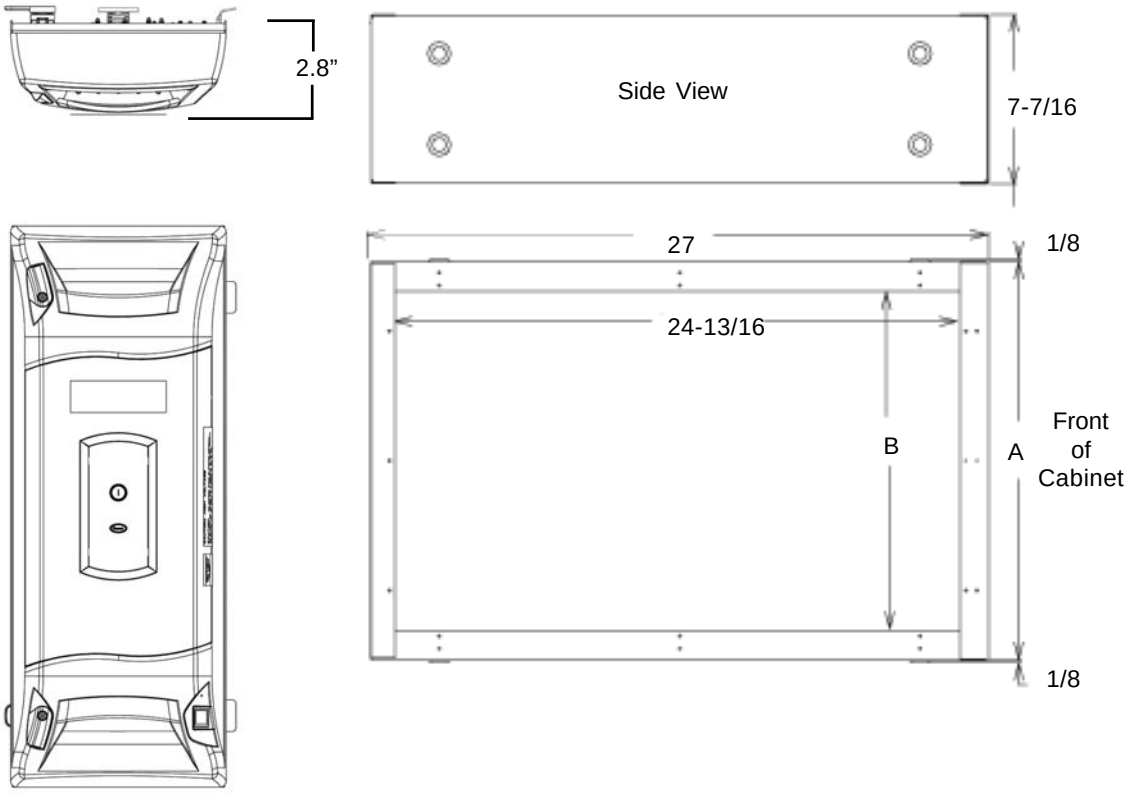
J. OUTLINE DRAWINGS

Dimensions

(all dimensions in inches)

OUTLINE DRAWING FOR UPFLOW FURNACES

27" DEPTH CABINET
ADD DOOR DEPTH FOR TOTAL



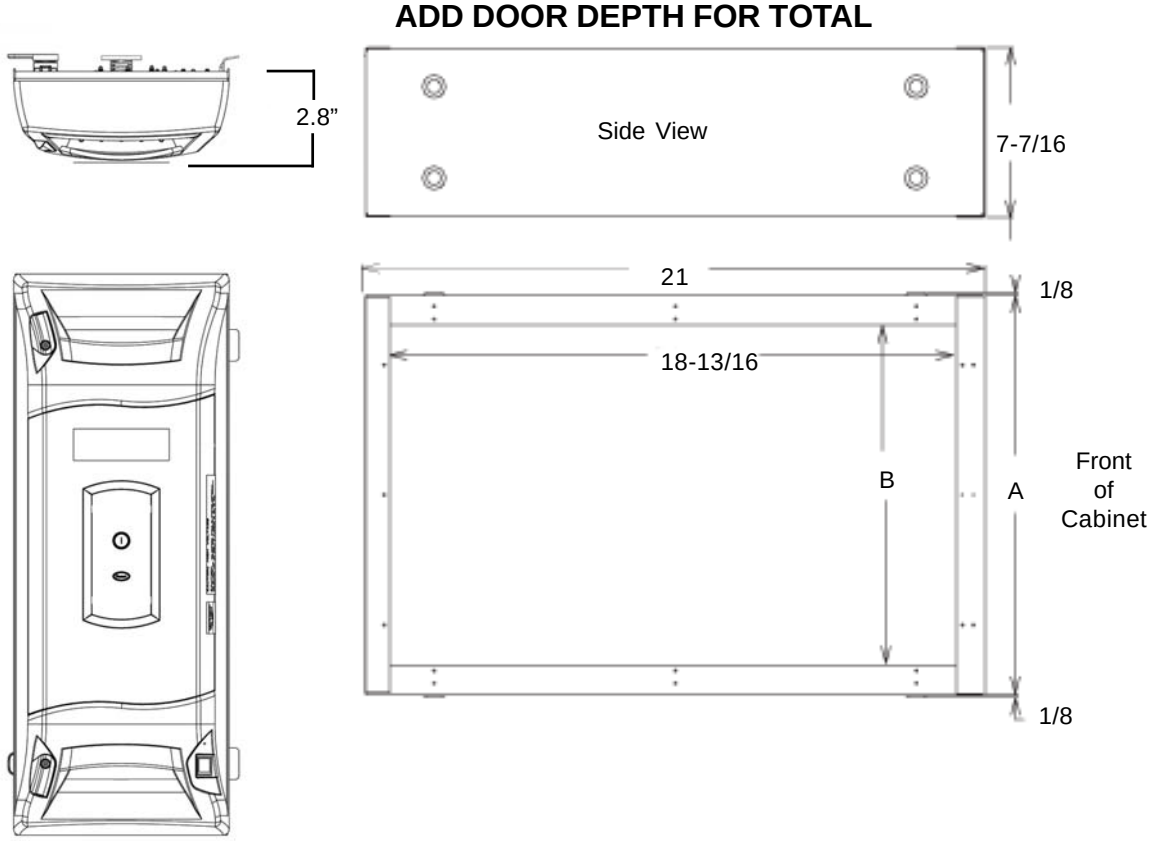
UPFLOW FURNACE MODEL NUMBERS			
ifD Air Cleaner	**A**	**B (multiple piece cabinet)**	**B (one piece cabinet)**
*FD145ALFR000B	14.5	11.9	12
*FD175ALFR000B	17.5	14.9	15
*FD210ALFR000B	21.0	18.4	18.5
*FD245ALFR000B	24.5	21.9	22
* May be "A" or "T"			

Dimensions

(all dimensions in inches)

OUTLINE DRAWING FOR DOWNFLOW FURNACES

21" CABINET DEPTH
ADD DOOR DEPTH FOR TOTAL



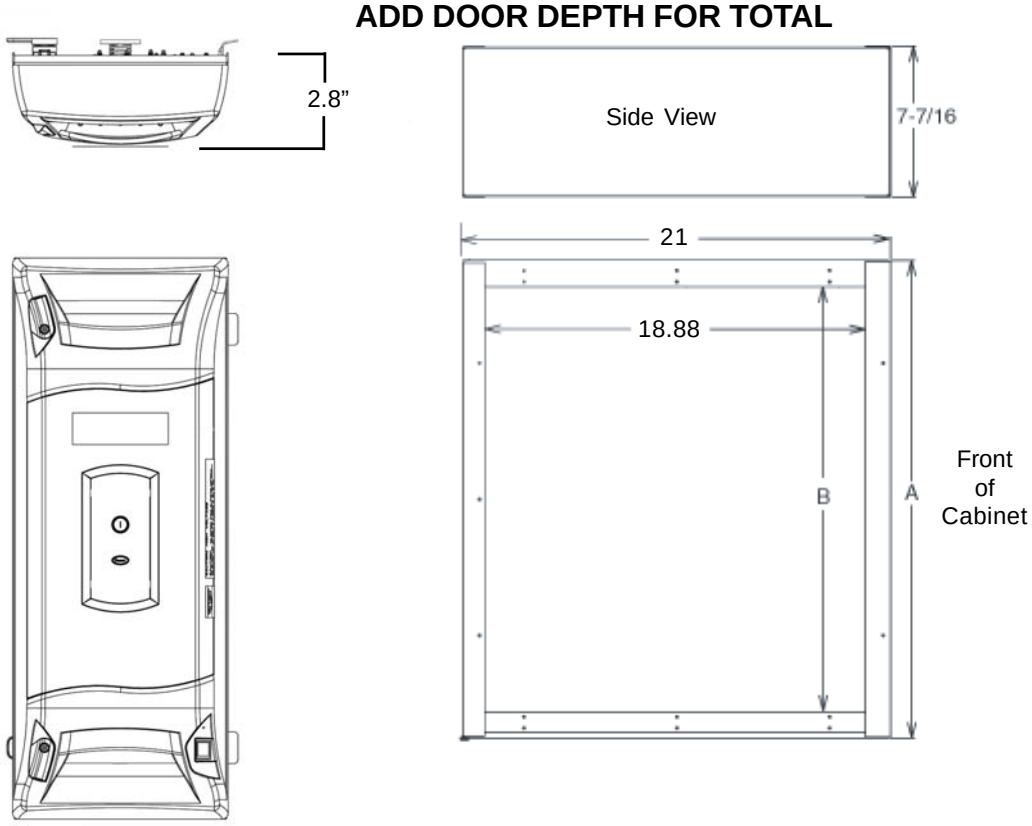
DOWNFLOW FURNACE MODEL NUMBERS			
ifD Air Cleaner	**A**	**B (multiple piece cabinet)**	**B (one piece cabinet)**
*FD14DALFR000B	14.5	11.9	12
*FD17DALFR000B	17.5	14.9	15
*FD21DALFR000B	21.0	18.4	18.5
*FD24DALFR000B	24.5	21.9	22
* May be "A" or "T"			

Dimensions

(all dimensions in inches)

OUTLINE DRAWING FOR AIR HANDLERS

21" DEPTH CABINET
ADD DOOR DEPTH FOR TOTAL



AIR HANDLER MODEL NUMBERS			
ifD Air Cleaner	**A**	**B (multiple piece cabinet)**	**B (one piece cabinet)**
*FD215ALAH000B TFD215ALAH005B	21.5	18.9	19
*FD235ALAH000B TFD235ALAH005B	23.5	20.9	21
*FD260ALAH000B TFD260ALAH005B	26.0	23.4	23.5
* May be "A" or "T"			

K. PRESSURE DROP INFORMATION

PRESSURE DROP AT SPECIFIC AIRFLOW PER MODEL									
	400 CFM	600 CFM	800 CFM	1000 CFM	1200 CFM	1400 CFM	1600 CFM	1800 CFM	2000 CFM
*FD145ALFR000• *FD145ALUPGRDA	0.04	0.09	0.14	0.20	0.27				
*FD175ALFR000• *FD175ALUPGRDA	0.03	0.06	0.10	0.14	0.19	0.24	0.30		
*FD210ALFR000• *FD210ALUPGRDA	0.02	0.04	0.07	0.10	0.13	0.17	0.21	0.26	0.31
*FD245ALFR000• *FD245ALUPGRDA	0.01	0.03	0.05	0.07	0.10	0.13	0.16	0.19	0.23
*FD14DALFR000• *FD14DALUPGRDA	0.07	0.14	0.22	0.32	0.44				
*FD17DALFR000• *FD17DALUPGRDA	0.05	0.09	0.15	0.22	0.30	0.39	0.49		
*FD21DALFR000• *FD21DALUPGRDA	0.03	0.07	0.11	0.15	0.21	0.27	0.34	0.42	0.50
*FD24DALFR000• *FD24DALUPGRDA	0.02	0.05	0.08	0.12	0.16	0.20	0.25	0.31	0.37
*FD215ALAH000• TFD215ALAH005B *FD215ALUPGRDA	0.03	0.06	0.10	0.15	0.20				
*FD235ALAH000• TFD235ALAH005B *FD235ALUPGRDA	0.02	0.05	0.09	0.12	0.17	0.22	0.27		
*FD260ALAH000• TFD260ALAH005B *FD260ALUPGRDA	0.02	0.04	0.07	0.10	0.14	0.18	0.23	0.28	0.33

* May be "A" or "T"
• May be "A" or "B"

Installer's Guide

12/07

Trane
6200 Troup Hwy.
Tyler, TX 75707

For more information contact your local dealer (distributor)

The manufacturer has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.